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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* FLOYD BACKES and LAURA BRIDGE

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Appeal 2009-006592  
Application 10/781,157  
Technology Center 2400

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Before KENNETH W. HAIRSTON, JOHN C. MARTIN, and  
MARC S. HOFF, *Administrative Patent Judges*.

MARTIN, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

### STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-5, 11, and 12, which are all of the pending claims.

We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

#### *A. Appellants' invention*

Appellants' invention relates generally to wireless networks, more particularly to wireless network configuration and power level adjustment for network performance optimization. Specification [0001].<sup>2</sup>

In order to optimize performance, STAs (stations<sup>3</sup>) periodically canvass the other channels in the band in which the STA is operating to see if a "better" AP (access point<sup>4</sup>) is present by considering various parameters, such as signal strength and load factors (*id.* at [0073]). During the canvass time, the STA tunes its radio to a different channel in order to passively listen for beacons and DRCP (Dynamic Radio Control Protocol<sup>5</sup>) Announce messages. The STA 16 keeps track of which channels have been canvassed, stepping through all of the channels until all supported channels have been canvassed (*id.* at [0203]).

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<sup>2</sup> Because the Application as filed does not contain paragraph or line numbers, references herein to the Specification are to corresponding Patent Application Publication 2004/0170140 A1.

<sup>3</sup> Specification [0062].

<sup>4</sup> Specification [0062].

<sup>5</sup> Specification [0087].

The STA notes the received power level that accompanied the beacons and Announce messages and uses these values along with the TP (transmit power<sup>6</sup>) backoff values to calculate the distances to the APs (*id.* at [0227]). The STA also calculates “biased distance” values that take into account the “available data rate” as well as the loads on the APs (*id.* at [0236]), using the formulas given in paragraphs [0247] and [0248]. “The data rate is deduced based on the received signal strength and the technology being used (i.e., in an 802.11 environment, the 802.11 mode of operation (a,b,g))” (*id.* at [0236]). After calculating the biased distances and the “biased\_distance\_deltas” for all of the APs in the “knownAPs” list, the AP with the lowest biased distance is considered to be the best candidate and, if it appears better than its current AP, a Bid is sent thereto (*id.* at [0250]). If a DRCP Accept is received with the AP-ID matching the AP-ID of the selected AP, the STA sets its TP backoff value to zero and associates with the AP from which the Accept was received (*id.* at [0251]).

#### *B. The claims*

The sole independent claim before us is claim 1, which reads as follows:

1. A method for use by a wireless device in a wireless communications environment, the method comprising the steps of:

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<sup>6</sup> Specification [0098].

associating the wireless device with a current access point;

ascertaining, by the wireless device, whether the wireless device should attempt to associate with an alternative access point, the ascertaining including calculating an indication of whether the alternative access point is preferable as a function of:

distance to the alternative access point as indicated by signal strength of at least one communication received from the alternative access point, and

load on the alternative access point, and

available data rate from the alternative access point; and

requesting association with the alternative access point if it is ascertained that said alternative access point is preferable.

Claims App. (Br. 10).<sup>7</sup>

### *C. The references*

The rejections are based on the following references:

English	US 2003/0036374 A1	Feb. 20, 2003
Pinard	US 6,580,700 B1	June 17, 2003
Parks	US 6,959,001 B1	Oct. 25, 2005

### *D. The rejections*

Claims 1-5 and 11 stand rejected under 35 U.S.C. § 103(a) for obviousness over English in view of Pinard. Final Action 3.

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<sup>7</sup> Appeal Brief filed January 10, 2008.

Claim 12 stands rejected under § 103(a) for obviousness over English in view of Pinard and Parks. *Id.* at 6.

## ANALYSIS

### A. Claims 1, 2, and 11

The Examiner (1) finds that English satisfies all of the limitations of claim 1 except for calculating an indication of whether an alternative AP is preferable as a function of (a) load on the alternative AP and (b) available data rate from the alternative AP, and (2) relies on Pinard to cure these deficiencies. Final Action 4. Appellants argue (Br. 5) that the Examiner erred in finding that Pinard describes selecting an alternative AP based on the available data rate. The Examiner, in discussing claim 1 at page 4 of the Final Action, bases this finding on “col. 2, lines 49-59” and “fig. 3; col. 5, lines 15-30.” The cited lines in column 2 explain that Pinard’s method includes “associating with the most eligible access point at the highest data rate.” Pinard, col. 2, ll. 58-59. Figure 3 of Pinard is reproduced below.

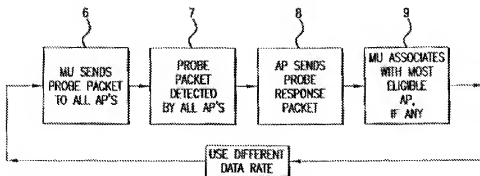


FIG.3

Figure 3 is a block diagram illustrating the steps carried out by a mobile unit during the rate adjusting and roaming process. Pinard, col. 3, ll. 51-53. In the column 5 passage cited above by the Examiner, Pinard explains that

the mobile unit (MU) . . . sends out a probe packet to all access points (APs), typically at the lowest data rate it is otherwise able to use with the network. The probe packet contains the mobile unit source address but has no destination address and hence any access point that detects the probe packet and is capable of responding at the same data rate must send a response. Accordingly, the probe packet is detected by all access points within range (step 7) and a subset of those access points sends out a probe response packet (step 8.) *An evaluation of the signal quality and possibly other factors is made (as will be subsequently described) by the MU of the communications with the most eligible access point (if any) at the highest data rate. If such communications are acceptable, the MU will associate with the selected AP* (step 9).

*Id.* at col. 5, ll. 17-31 (emphasis added). Appellants, specifically addressing the italicized language in the above-quoted passage, argue that

[t]he passage at column 5, lines 26-31 describes how signal quality from an access point is evaluated at the highest data rate, i.e., different rates are available from the access point, and the highest rate is used to measure signal quality. . . . [T]his has nothing to do with selecting an alternative access point based on available data rate.

(Br. 5.) As support for this argument, Appellants rely on Pinard's Figure 5, which is reproduced below.

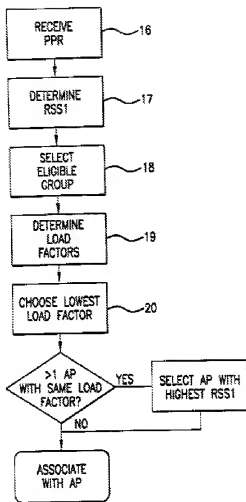


FIG.5

Figure 5 is a flow chart illustrating the steps carried out by an MU for selection of the most eligible AP. Appellants argue that

[a]ccording to Pinard, access point selection is based on load factor and received signal strength (RSSI) only. As shown in Figure 5 of Pinard, the access point with the lowest load factor is selected. If more than one access point has the same lowest load



factor, then the access point with the highest RSSI is selected.  
Again, available data rate is not considered.

(Br. 6-7.) This argument overlooks the fact that the process depicted in Figure 5 is performed *at each data rate*. See Pinard, col. 5, ll. 59-61 (“Referring next to FIG. 5, at each data rate the mobile unit evaluates and considers the most eligible access point in the following manner[.]”). Furthermore, as pointed out by the Examiner in the Answer, Pinard specifically describes using the data rate as a basis for selecting an AP:

Pinard . . . teaches a method allowing a wireless device to select an access point for *maximizing data throughput* (e.g., see col. 2, lines 40-48). In particular, Pinard teaches ascertaining for association with an alternative access point (e.g., see col. 2, lines 49-59 regarding “[*]associating with the most eligible access point at the highest data rate*”) includes calculating an indication of available data rate from the alternate access point (see fig.3, col.5, lines 15-30[.]

(Answer 9 (emphasis added).) Appellants, who did not file a reply brief, have not addressed, let alone shown error in, the Examiner’s reliance on these column 2 passages.<sup>8</sup>

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<sup>8</sup> An appellant may attempt to overcome an examiner’s obviousness rejection on appeal to the Board by: (A) submitting arguments and/or evidence to show that the examiner made an error in either (1) an underlying finding of fact upon which the final conclusion of obviousness was based or (2) the reasoning used to reach the legal conclusion of obviousness; or (B) showing that the prima facie case has been rebutted by evidence of secondary considerations of nonobviousness. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

We further find that other passages in Pinard specifically describe basing AP selection on the available data rate of the AP. For example, at column 2, lines 60-64, Pinard explains that if the MU performance is below a threshold and the MU is unable to associate with another access point at a higher data rate, the data rate is reduced to the next lower data rate. Pinard also explains that

[i]t is the feature of the roaming algorithm of the present invention to roam to an AP in order *to maintain 2 MBit coverage, when possible, rather than reduce the transmission rate* in order to increase range. In addition, the combined roaming/dynamic rate control algorithm also has the provisions for *increasing and decreasing transmission rates* when roaming to maintain 2 MBit performance is not possible.

(col. 8, ll. 40-48 (emphasis added).)

For the above reasons, we sustain the rejection of claim 1 and the rejection of its dependent claims 2 and 11, which are not separately argued. *In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987).

#### *B. Claims 3-5*

Claim 3 reads as follows:

3. The method of claim 2 wherein the step of ascertaining further includes the step of determining that the wireless device should attempt to associate with the alternative access point if the alternative access point has a *lower biased distance* relative to the wireless device than the current access point.

Claims App. (Br. 10) (emphasis added).

The Examiner (incorrectly identifying the relied-upon reference as Pinard rather than English) finds that “mobile 902a [Fig. 10] waits until it gets to distance X from the access point 904b before trying to associate with access point 904b; the distance X means that the signal power/BER<sup>9</sup>] with access point 904b is better).” Final Action 5. According to Appellants,

the Examiner ignores the distinction between simple “distance” and “biased distance.” The specification describes biased distance in section 4.c.2 *Biased Distance Calculation* at pp. 55-57. Note that biased distance is a specific relationship between corrected distance and load factor. The Examiner has not given consideration to the meaning of the term “biased distance” as defined in the Specification.

(Br. 7.) The argument is unpersuasive. Application claims are interpreted as broadly as is reasonable and consistent with the specification, *In re Thrift*, 298 F.3d 1357, 1364 (Fed. Cir. 2002), while “taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification,” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997), and without reading limitations from examples given in the specification into the claims, *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989). Although the Specification (at [0247]) provides a formula for calculating the “biased distance,” it does not *define* this term as requiring calculation using such a formula or in any other way. As a result, construing this term as requiring such a calculation would amount to reading a limitation from the Specification into the claim.

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<sup>9</sup> England does not explain the meaning of this acronym.

Furthermore, the absence of a definition amounts to an invitation for the Board to consult Appellants' Specification and the prior art in order to arrive at some unspecified interpretation that is narrower than the Examiner's. This approach to arguing patentability fails to recognize that the burden of defining the invention rests on Appellant rather than on the Examiner or the Board. *Morris*, 127 F.3d at 1056.

The rejection of claim 3 is sustained, as is the rejection of its dependent claims 4 and 5, which are not separately argued. *Nielson*, 816 F.2d at 1572.

*C. Claim 12*

Claim 12 reads as follows:

12. The method of claim 1 including the further step of calculating the data rate available from the alternative access point as a function of: (a) signal strength of at least one communication received from the alternative access point; and (b) *communication protocol mode* supported by the alternative access point.

Claims App. (Br. 13) (emphasis added). As noted above, Appellants' Specification explains that "[t]he data rate is deduced based on the received signal strength and the technology being used (i.e., in an 802.11 environment, the 802.11 mode of operation (a,b,g))." Specification [0236].

For a teaching of calculating the available data rate from the communication protocol mode, the Examiner relies on English's disclosure that wireless network 900a is applied in ultra-wideband technology and

Pinard's disclosure of using an IEEE 802x communication protocol (col. 10, lines 35-40). Final Action 6-7.<sup>10</sup> These cited lines in Pinard state that "[i]t will be recalled that the basic message control system is defined in IEEE 802.11 protocol specification, and involves the use of beacon messages with traffic indicator maps and a poll message to request transmission of the data." Appellants responded by arguing that "Applicant does not claim to have invented all IEEE 802 protocols" and that "Pinard fails to suggest any sort of *calculation of data rate based on communication protocol mode*, let alone communication protocol mode in combination with signal strength" (Br. 8 (emphasis added)). This argument is unpersuasive because it fails to address Pinard's following discussion of data rates and the 802.11 protocol:

2. MUs periodically scan for Access Points by sending Probe frames and waiting for one or more Probe Response frames from APs which happen to be on the given frequency being probed. The Probe frames are normally sent at a 1 MBit rate; Probes will be sent at 2 MBits if an MU is configured to transmit only at 2 MBits. But the dynamic rate control algorithm is only used when an MU has the option of both transmission rates. *The Probe Response frame contains a data structure which specifies the rates that the AP can support, as specified in the 802.11 Specification. This information is saved for each responding AP in an Access Point Table data*

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<sup>10</sup> Although the rejection of claim 12 is based in part on Parks, the Examiner does not rely on Parks in discussing the rejection in the Final Action or the Answer.

*structure and is subsequently available to the roam algorithm for decision making.*

*Id.* at col. 9, ll. 10-24 (emphasis added).

The rejection of claim 12 is therefore sustained.

### DECISION

The rejection of claims 1-5, 11, and 12 under 35 U.S.C. § 103(a) for obviousness over England in view of Pinard is sustained.

The Examiner's decision that claims 1-5, 11, and 12 are unpatentable is therefore affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(v) (2010).

Appeal 2009-006592  
Application 10/781,157

AFFIRMED

babc

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